

UTAH DIVISION OF SOLID AND HAZARDOUS WASTE
Stericycle Medical Waste Incinerator
RESPONSE TO COMMENTS

The solid waste permit for the Stericycle infectious waste incinerator is issued under the solid waste rules, Utah Administrative Code (UAC) R315-301 through 320. These rules address the solid waste treatment, storage, and disposal of non-hazardous solid waste. These rules do not address the emissions from the incineration of the solid waste. Emissions from solid waste incinerators are addressed under rules administered by the Division of Air Quality (DAQ). DAQ currently has issued an approval order (permit) for the Stericycle infectious waste incinerator. Issues relating to the emissions from the Stericycle facility should be addressed to DAQ.

Written and oral comments submitted to Executive Secretary of the Utah Solid and Hazardous Waste Control Board are numbered below. Some comments have been summarized and comments have been grouped to aid in preparing this response. A response follows each comment or group and is in italics.

1. Several comments were received regarding the black smoke emitted by the incinerator. The commenters felt that the smoke indicated that there were toxic constituents from the medical waste being released into the atmosphere.

Stericycle submits an annual emissions inventory that includes the emissions released during times when the air pollution control system is bypassed. This emissions inventory is required by the Division of Air Quality and is compared to the permissible limits established by the Division of Air Quality in Stericycle's DAQ Permit. A review of the most recent annual emissions inventory indicates that the total emissions, including bypass events, are below the allowable limits set by the Division of Air Quality. Any further questions regarding the emissions should be directed to the Division of Air Quality.

2. One commenter complained about the noise during the night and that the noise was disruptive.

The noise during the night is not an aspect of the solid waste operating permit that is subject to solid waste regulations and therefore considered during a permit renewal. However, Stericycle is aware of the proximity to neighbors and will be investigating engineering controls to reduce the noise levels at the facility.

3. Residents expressed concern that there was no emergency evacuation plan as part of the Plan of Operations.

An emergency evacuation plan for the incineration facility is under review by Stericycle. The final emergency plan, when completed, will be included in the

Plan of Operation and will include the conditions under which an emergency evacuation of the incinerator site is required. Any emergency evacuation plan will need to be developed under the authority of the local emergency responders that include the appropriate local fire department and/or police department.

Stericycle does not have either the authority to conduct nor establish the conditions when emergency evacuations of residents near the facility could be conducted. Any such evacuations would be done under the authority of local emergency responders. The emergency response required by the "Solid Waste Permitting and Management Rules" is specific to the facility. If an incident should occur the facility operator will notify local police or fire department agencies. Any decisions to evacuate nearby residents would be made by the emergency responders as part of their authority to protect the public.

4. Several commenters indicated that they wanted an extension to the public comment period and a public hearing to be held in North Salt Lake to discuss the effects of the Stericycle incinerator on the adjacent Foxboro community and the new development that is planned on the other side of Stericycle.

The public comment period was extended once to allow for additional public participation. In addition, a second public hearing was held during the public comment period extension. Sixty-four days were allowed for comments.

Two public hearings were held to receive oral comments on the draft permit renewal. Both hearings were held in the Cannon Health Building, which is located less than six miles from the Stericycle facility. All suggested locations for public hearings given by commenters required transportation outside the neighborhood adjacent to the facility. As transportation would be required to attend any public hearing on the facility, six miles is not an unreasonable distance to travel and the Cannon Health Building conference rooms were adequate for conducting public hearings.

5. One comment was received regarding the lack of dialogue between the State and North Salt Lake Planning Commission and City Council and stating that the State changed original agreements without properly notifying the North Salt Lake City Council and cited the increase of 1350 lbs/hour to 1850 lbs/hour in 1993.

The change to increase the waste throughput was made as a modification to the permit issued by the Executive Secretary of the Solid and Hazardous Waste Control Board. The permit modification included a public comment period. The comment period and final action were both noticed in the local and statewide newspapers.

Additionally, as a matter of division policy, all correspondence with Stericycle is copied to the Director of the Davis County Health Department. The Health Department has the authority to perform inspections of the facility at any reasonable time. As a local health department, the Davis County Health Department is overseen by a board that is composed of representatives of the local governments throughout Davis County.

Zoning and conditional use restrictions are administered by the local government authority that set the conditions. The Division of Solid and Hazardous Waste does not have the authority to enforce conditional use restrictions set by local governments.

6. One commenter indicated that the bottom ash container was simply covered by garbage bags and that the bags had blown off during a wind gust and that the ash was blowing around.

The requirement for cover of the ash container will be explicitly included in the operating requirements for this facility. Specifically, the ash storage bin will require covering. This requirement will be included in the Permit.

Permit Section II. E.4 will be modified to read as follows:

“Ash bins shall be covered a wind-proof tarp that has been tied down to prevent air disbursement of ash from the bins.”

7. Comments were received that indicated that residents were concerned about the storage and incineration of animals contaminated with “wasting disease” or Mad Cow disease.

It is the opinion of the Utah Department of Agriculture that incineration is an appropriate disposal option for animals contaminated with chronic wasting disease, Bovine Spongiform encephalopathy (Mad Cow disease), and bird influenza. As such, the option of disposal of these wastes at the Stericycle medical waste incinerator is allowed and available.

As a practical matter, however, the Division believes that the inclusion of a large mass of animal carcasses into this incinerator presents operational problems that will need to be addressed before these wastes can be incinerated. Specifically, Stericycle will need to be able to confirm that the inclusion of large animal carcasses will not degrade the performance of the primary or secondary combustion chambers of this incinerator.

Stericycle will need to inform the Division prior to acceptance of these wastes to determine if incineration can be performed in accordance with the permit. The Permit will be modified in Section I.B.6 to read as follows:

“Stericycle shall obtain approval from the Executive Secretary prior to the acceptance and disposal of animals contaminated with “Mad Cow” disease (Bovine Spongiform Encephalopathy, BSE), chronic wasting disease, or bird flu (Avian Influenza). The facility must demonstrate to the satisfaction of the Executive Secretary and the Utah Department of Agriculture that the incinerator can be operated such that the time/temperature profiles of the incinerator can effectively destroy the animals and the disease that infects that animal.”

8. Comments were received indicating that the public was unable to enter the building during the public information meeting held at 6:00 p.m. and the public hearing scheduled at 6:30 p.m. Furthermore, some people indicated that the doors to the building were not placarded and that they had to wait for someone to exit the building before they could enter. The commenter further indicated that since anyone could make a statement during the public hearing, the doors must be opened for the duration of the public hearing.

The doors at all entrances to the building were placarded to direct the public to an open door. Division personnel were monitoring the open door to direct people to the public hearing as well as the information meeting held just prior to the public hearing. The open door was monitored during the entirety of the public hearing. At the end of the public hearing, the placards were rechecked and confirmed to have been placed on all the doors during the entire time of the public hearing.

9. One commenter stated that since the DSHW indicated that the permit application would be amended to include such changes as language (definitions for medical waste, Biohazardous waste, etc.) and an emergency evacuation plan, the comment period should be extended to allow the public an opportunity to review the revised permit application.

The following changes made to the permit renewal application:

- a) Section 6, General Facility Information: The capacity will remain at 1850 lbs/hour, and not be increased to 2,025 lbs/hr.*
- b) Section 3, General Facility Information: The onsite representative for the facility is Kirk Christenson*
- c) Section 7: Land use will be updated to include existing housing and a new map will be inserted to update the existing zoning surrounding the Stericycle facility.*
- d) Section 1.5.7 of the Plan of Operations will be changed to R315-301-2(47) to reflect the correct citation.*
- e) Section 11.1.1 of the Plan of Operations will be changed to R315-301 Through 320, Utah Code Annotated.*
- f) Section 8, Plan of Operations: The current Emergency Response Coordinator will replace the name in this section*

- g) Tab 8: Section 5 will be updated to include current personnel and the wording "Biohazardous" will be changed to "Infectious" waste. Attachments 1 & 2 will be replaced with updated information.*
- h) Tab 9: Attachment I will be replaced with an updated Emergency Call List*
- i) Tab X: Section 2 (Facility Operations) will be updated to accurately reflect the current zoning surrounding the facility and to note that there are residential dwellings adjacent to the facility property.*
- j) Tab XVI: Sections 8.0 through 10.0 will be adjusted to reflect the current closure cost estimate and insurance policy numbers*
- k) Tab 12 will be updated to reflect the current Policy Number and associated certificates.*

These changes to the permit application reflect current information. The Executive Secretary does not consider these changes to significantly change the permit application and would not constitute a need for another public hearing

10. Comments were received that indicated that the permit application did not address the proximity of nearby homes and residents.

Section 7(Land Use Compatibility) of the permit application as submitted, indicates that a community is planned adjacent to the facility. Section X (Fugitive Dust Control Plan) of the permit application states that the nearest resident is greater than 1 mile. Both of these sections of the permit application will be modified to include the proximity to residential neighborhoods. See Item 9 for a complete list of changes to the permit application.

11. One comment was received regarding the responsibility of DSHW to monitor for infectious, pathological, or other medical waste material as defined by DSHW statutes.

The requirement to test the effectiveness of the treatment of infectious waste is a requirement when the treatment is not steam sterilization or incineration (see R315-316-1(1)(a)). Monitoring the effectiveness of a proposed treatment using specific methods is discussed in R315-316-1(3)(a) of the Solid Waste Permitting and Management Rules, UAC.

12. One commenter indicated that the DSHW should more clearly define the characterization and/or amounts of waste that would be processed at any one time since the different types of waste would cause fluctuations in temperature and residence time in the incinerator.

The computer control system of the incinerator adjusts the cycle times and/or adjusts the flow of natural gas into the primary combustion chamber to maintain a relatively constant temperature inside the combustion chamber.

There are interlocks in the control system of the incinerator that prevent doors from opening and adding more waste until the temperature within the incinerator reaches the proper processing temperature. As different types of waste are introduced into the primary combustion chamber, the automatic control adjusts the flow of air and gas to reduce temperature fluctuations. The control system of the secondary combustion chamber insures that a relatively constant temperature is maintained.

13. One commenter indicated that the issue of “prions” which could be part of an animal carcass has not been directly addressed by the permit application, the DSHW, or by Stericycle. Any methodology of how to treat this waste has not been presented to the public for comment.

The “prions” that could be part of animal carcasses have been shown to be destroyed effectively at 1,000 °C (1800 °F) during incineration¹. Questions about incineration being an effective disposal option are directed at ‘small’ incinerators where effective secondary combustion is not available. The Stericycle incinerator has a controlled secondary combustion chamber that operates between 1800 °F and 2200 °F. The Division concurs with current research that this temperature is effective. Also see response (7) for further discussion.

14. There needs to be clarification of what type of production and testing Stericycle is planning to do with “biological material”, what is meant by “biological material” referenced in Section 1.0 (Description of Waste) in the Plan of Operations.

The term “biological materials” refers to wastes already included in the categories of waste from health care facilities, health-care related facilities, animal care facilities, wastes from research facilities, pharmaceutical manufacturing and unused pharmaceuticals. The term “biological” wastes will be removed from the waste description as this is a redundant term.

15. One commenter wanted clarification of Section 2.0 “Waste Identification Procedures” of the Plan of Operation to specifically identify whether prionic waste was included in this classification.

“Prionic” wastes would be classified as an agricultural waste. At this time, Stericycle is not required to create a special sub-category of “prionic” waste. A permit condition will be added to Section B (6) of the Permit to address the concern that agricultural waste that contains “prions” be completely incinerated during operation. Please see Comment #7 for the citation of this

¹ “Strategic R&D Priorities: TSE Inactivation and Management of Bovine Specified Risk Material (Draft Report)”, Alberta Agricultural Research Institute. February 2005.
http://www.aari.ab.ca/sec/new_res/docs/Specified_Risk_Materials_Feb15.pdf#search='Strategic%20R%26D%20priorities%20TSE%20inactivation'

Permit condition. Also see comment #13 for the citation of current research for this waste.

16. One commenter indicated that the waste minimization requirements of Section 2.0 “Waste Identification Procedures” of the Plan of Operations needs to be in a place such that the public could review various protocols and be able to determine that actual minimization occurs. Merely being able to recite the requirements does not meet this requirement. Clarification is needed on what protocols are being implemented.

As a disposal facility, Stericycle is constrained to dispose of all waste that arrives at the facility. There are no regulations in the Administrative Rules, R315-301 Through 320, of the Utah Annotated Code that require a solid waste disposal facility to include “minimization” requirements for the generators of waste arriving at their facility. Stericycle may have voluntary “waste minimization” goals with their customers, but these goals are not included in the solid waste permit and is not enforceable by the Department of Environmental Quality.

17. One commenter indicated that the ash analysis of Section 5.0 “Ash Analysis” needs to be modified to specifically define the methodology regarding the characterization of pathological waste, such that the methods are clearly defined to assure that pathological waste is destroyed in the various processes used at Stericycle.

Currently, the solid waste rules only require that ash be characterized for metals and organics to insure that the ash would not be characterized as “hazardous waste” before disposal in a regulated landfill. Also, see comment #11.

18. One commenter stated that the term “Biohazardous” was used in Subsection 5.0 “Ash Analysis” and that this language was not defined by the State statute or Solid Waste Rules.

The term “Biohazardous” is a term used by the Department of Transportation to identify a category of wastes. Historically, the Division of Solid and Hazardous Waste has used the terms “medical waste”, “infectious waste” and “Biohazardous waste” interchangeably. The State of Utah has specifically identified “infectious waste” in statute as follows:

19-6-102(12) UCA “Infectious waste” means a solid waste that contains or may reasonably be expected to contain pathogens of sufficient virulence and quantity that exposure to the waste by a susceptible host could result in an infectious disease.

Also, the State statute defined a health facility as:

19-6-102(10) UCA “Health facility” means hospitals, psychiatric hospitals, home health agencies, hospices, skilled nursing facilities, intermediate care facilities, intermediate facilities for the mentally retarded, residential health care facilities, maternity homes or birthing centers, free standing ambulatory surgical centers, facilities owned or operated by health maintenance organizations, and state renal disease treatment centers including free standing hemodialysis units, the offices of private physicians and dentists whether for individual or private practice, veterinary clinics, and mortuaries.

The proper reference to the types of waste would be “infectious waste and wastes received from health care facilities.” The permit application and permit will be modified to properly identify these wastes to be in congruence with State statute.

*Section I.B.1. of the Permit will be modified to read as follows:
“Infectious Wastes, Pathological Wastes and Laboratory Wastes that include:”*

19. One commenter indicated that “police evidence and/or contraband” could include various weapons and munitions and that there needed to be a statement how weapons and munitions would be processed. Also, there was a comment regarding the disposal of contraband from “meth” labs as they could contain dangerous organic sulfur and organic chloride compounds.

*The types of wastes included in “police evidence and/or contraband” was not intended to include weapons or munitions. Section I.B.5.a.iii of the Permit will specifically exclude weapons and munitions and read as follows:
“Contraband (e.g. police evidence) excluding weapons or munitions.”*

*Section I.E.3 of the Permit Application (Waste Management Procedures) will be modified to read: **“Contraband (e.g. police evidence) excluding weapons or munitions.”***

Hazardous organic wastes such as dangerous organic sulfur and organic chloride compounds found in “meth labs” would not be accepted for disposal a Stericycle. These compounds are noted in Section 2.0 of the Permit Application (Waste Management Procedures) as non-conforming wastes if they are regulated as a hazardous wastes by the State of Utah.

20. One commenter indicated that since the Division of Air Quality regulated the emission parameters, the combustion parameters would need to be regulated

under DSHW, and requested that the parameters regulated under DSHW be specified and furthermore, which specific parameters would be continuously monitored.

The solid waste permit includes the operation of the incinerator and the management of waste going into the incinerator and the management of ash produced by the incinerator. The permit includes the operation of the primary combustion chamber, but not the operation of the secondary combustion chamber. The secondary combustion chamber and all air pollution control equipment is regulated by the Division of Air Quality.

It is important to recognize that the solid waste permit includes the permit application by reference and is enforceable by the Executive Secretary of the Solid and Hazardous Waste Control Board.

21. One commenter indicated that there was no discussion requiring either a 20-hour OSHA training or a 40-hour OSHA training, yet Section V “Personnel Training” indicated refresher courses for this OSHA training.

OSHA (Occupational Safety and Health Administration) has promulgated its own regulations which can be found in section 29 CFR 1910.46 of the Code of Federal Regulations. These regulations require that the employer train its employees how to protect themselves from hazards in their specific workplace environments. Hazardous waste exposure protection is only one of the topics in which the employees need to be trained. Other subjects include confined space entry, electrical hazards, physical hazards, fire prevention, etc.

While the solid waste permit regulates the management of the waste, personnel safety is a requirement of OSHA. Training required under the Solid Waste Rules relates to waste handling, waste inspection, and identification and management of hazardous waste. Personnel safety training is regulated by OSHA.

22. One commenter indicated that the financial assurance cost estimate (1999 dollars) was not adjusted for inflation and the current closure cost needs to be corrected.

The financial assurance cost estimate was amended on September 16, 2004 and the estimated closure cost was increased to \$316,928.00. Stericycle maintains a bond for this amount and meets the financial assurance requirements of the solid waste rules.

Tab XVI of the Permit Application (Closure/Financial Assurance Plan) will be updated to reflect the current closure costs and update the Certificates of Insurance included in this section.

23. Several commenters stated that black smoke and debris was observed coming from the stack at Stericycle.

The Division is very concerned that there is the perception that this facility emits black smoke and/or debris during operation. The Division is working with Stericycle to determine the conditions and circumstances where these conditions have been observed. To date, one instance of debris has been ascertained that has occurred when the installation of equipment caused building insulation (shredded and treated newsprint) to be blown to neighboring homes.

The facility is investigating various conditions, such as boiler cleanout, primary combustion startup, packed tower operation, or any other operating conditions that could possibly cause black smoke.

The Division will be working with the facility and the Division of Air Quality to understand and prevent these events. Even during bypass events, all gas is still being heated in the secondary combustion chamber and all controls on the primary and secondary combustion chambers are in operation. These controls prevent non-combusted material from exiting the incinerator.

24. Several commenters criticized North Salt Lake city officials and the builder for allowing residential housing adjacent to the incinerator and, while acknowledging that the incinerator was located earlier than the housing, insisted that the incinerator be shut down.

Zoning changes that allowed residential housing adjacent to this incinerator are strictly under local jurisdiction and are outside the legal authority of the solid waste statute and rules and therefore are not addressed by this permit. Siting criteria are applicable only to new facilities seeking a permit from the State. Facilities that have already received a permit and are seeking a renewal permit are not subject to the siting criteria.

25. Several commenters indicated that they were concerned about the bypass events that took place and that toxic pollution would impact their health.

Bypass events are monitored by the Division of Air Quality and are regulated by the Air Quality Approval Order and Operating Permit for Stericycle. Bypass events occur when the gas from the secondary combustion chamber is prevented from being treated in the subsequent air pollution control equipment. These events may be caused by loss of electrical power or equipment malfunction. During all bypass events, the gas is discharged from the secondary combustion chamber directly to the atmosphere. Gas from the secondary combustion chamber is at approximately 2200 °F and all organic

compounds have already been completely destroyed.

26. One commenter questioned the use of water at Stericycle and wanted to know if the wastewater was sent to the sewer system or disposed into the groundwater.

All wastewater produced by the Stericycle facility is discharged, under the appropriate local approval, into the sewer system where it is subsequently treated at the sewage plant. The wastewater is periodically monitored by the sewage treatment plant and is subject to the pre-treatment standards established by the sewage treatment plant.

27. One commenter indicated that the original permit of the facility owned by BFI was sited within 1 mile of residential homes and apartments and questioned the original permitting process that allowed this.

The original permitting of this facility was performed in accordance with the Solid Waste Permitting and Management Rules, R315-301 Through 320 at the time of the original permit date in 1992. The existing criteria for siting the facility at that time were adopted by the Utah Solid and Hazardous Waste Control Board following required rulemaking procedures, including the opportunity for public participation. Solid waste facility siting criteria have never required a facility be subject to a one-mile setback from residential homes or apartments.

28. Several commenters indicated that the permit should be revoked unless Stericycle converts their technologies to non-incineration methods.

Both the Solid and Hazardous Waste Act and the Solid Waste Permitting and Management Rules allow for incineration of medical waste as an appropriate disposal option. The Solid and Hazardous Waste Act does not grant the Executive Secretary of the Solid and Hazardous Waste Control Board the authority to dictate any specific technologies a facility may chose to use in its waste management process.